Fig. 1 shows a stereoscopic endoscope apparatus in accordance with the first embodiment of the present invention.

The stereoscopic endoscope apparatus 1 shown in Fig. 1 is composed of the stereoscopic endoscope 2 and the light source apparatus 3 in accordance with the first embodiment.

In the stereoscopic endoscope 2, a light guide 6 for transmitting illumination light in an elongated insertion part 4 is inserted. This light guide 6 is further passed through a light guide cable 7 which is extended from an operation part (or an eye-piece part) 5. By connecting a connector 8 attached to the end of this cable 7 to the light source apparatus 3, the illumination light from the light source apparatus 3 is supplied. That is to say, the white ray of a lamp 9 is condensed by a lens 11 to be illuminated on the end surface of the light guide 6. The illumination light transmitted by this light guide 6 exits forward from the other end surface attached to the distal end 12 of the insertion part 4. The image of the part to be observed such as to the diseased part as illuminated by the illumination light exiting therefrom is formed by two objective optical systems 13a and 13b attached to the distal end 12 at the distal end surface of an image guide 14 as an image information transmitting means provided a common focal plane of the two objective optical systems 13a and 13b.

The two objective optical systems 13a and 13b are arranged such as to have a distance d between both the optical axes thereof so that an optical image having a parallax may be formed at the distal end surface of the image guide 14.

On the optical axes of the respective objective optical systems 13a and 13b are provided prisms 15a and 15 respectively. The light reflected at a right angle in the prisms 15a and 15b is passed through shutters 16a and 16b respectively and thereafter further passed through a prism 17 having a reflection plane parallel to the reflection plane of each of the prisms 15a and 15b so that an image of the light is formed at the distal end surface of the image guide 14.

The shutters 16a and 16b are connected to a shutter drive circuit 18 in the light source apparatus 3 via signal cables. These shutters 16a and 16b are adapted to be opened and closed alternately. Thus, the image guide 14 transmits the optical images by the two objective optical systems 13a and 13b alternately to be transmitted to the end surface (which is described as "rear end surface") at the side of the operation part 5.

A prism 21 which is similar to the prism 17 is provided such as to oppose the rear end surface. The light is adapted to be passed respectively through the shutters 22a

and 22b which are provided so as to oppose to each other at both sides of the prism 21 and enter the prisms 23a and 23b to be reflected at a right angle and guided into the eyepiece lenses 24a and 24b.

The shutters 22a and 22b are also connected to the shutter drive circuit 18 via signal cables so as to be opened and closed in synchronism with the shutters 16a and 16b.

In addition, the distal end portion of the light guide 6 is provided, for example, between the (separated) two objective optical systems 13a and 13b, so that the illumination light may exit such as to substantially cover the direction of the field of view of both the objective optical systems 23a and 23b.

In accordance with the first embodiment constituted as mentioned above, the optical images by the two objective optical systems 13a and 13b are transmitted time-divisionally by the common image guide 14 so as to enable the stereoscopic observation via the two eye-piece optical systems which branches at the side of the eye-piece portion. Hence, it is possible to reduce the diameter of the insertion part 4 at the rear side of the distal end part 12 like the usual endoscope. Thus, it is possible to provide an endoscope which is effective in diagnosing pertinently since the pains given to the patient when the endoscope is inserted or the like can be reduced and the stereoscopic viewing is made possible so as to be able to view the manner of convex and concave or the like in more detail.